6 April 1981

MEMORANDUM FOR THE RECORD

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FROM   : [   ]
                           Chief, Systems Analysis Staff

SUBJECT   : Comments on the TRW Design Reviews Held in
                           Torrance, California, 23-27 March 1981

INTRODUCTION

    1. This is a report of the recent TRW design review of
the whole SAFE System, and the review of progress on
increment 1 and increment 2 of the Block 1 development.
Technically, this was called PDR for the system; DDR for
increment 1 and IDR for increment 2.

General

    2. The sessions were held in the new SAFE Development
Facility (DF) at Torrance, California and were recorded on
TV tape cassettes and were transmitted via closed circuit
television to various places within the DF. Cassettes from
this meeting will be available to the Government, if
desired.

    3. Mr. Rollins, and Mr. Williams (Rollins' manager),
sat in during the first few presentations; after that time a
variety of TRW management was available including: Fred
Manthey, Lari McLoughlin and Rick Evans. During certain
sessions, where user interaction topics were being
discussed, one of these three individuals stayed in close
proximity to C/SAS to answer questions in real-time fashion.

    4. The sessions all followed a fixed format: the
speaker armed with slides, made his presentation. Handouts,
of the materials being shown in the slides were available to
the audience. A tremendous amount of paper was generated.
Questions of substance were usually not answered in-depth
from the floor, but rather were the subject for a Technical
Interchange Meeting, a Side Meeting or a Management Meeting
which were scheduled as the need arose.

5. In our judgment, the sessions were of mixed quality; some looked as though a tremendous amount of detailed design work had been accomplished; and some turned out to be lectures on such basics as Boolean Logic. It appeared that much "filler material" was used during some of the the sessions. CSPO, especially [   ]   STAT asked numerous questions; his enthusiasm and perseverance in particular must be underscored. The bottom line on how far along they actually are is a question that CSPO is in a better position to answer. But, from where we stood, we feel that CSPO should be asked that question in all due haste.

6. SAS was pleased to note the mention by TRW that they had received a series of PUC Reports from CSPO; these reports were mentioned at various times during the week in order to state where they got an idea, or what source they used to make a given developmental decision. However, it was clear from the sessions that it is "too little, too late".

7. None of TRW's examples of queries, compose items, or profiles, etc., used anything even vaguely resembling intelligence matter. Examples were in terms of "Cat plus Dog", or "all students at UCLA over 6' tall". It would seem by this time that some material taken from the daily paper could be used to season the examples; to give a more realistic flavor to their work. This is more than just "nice to have"; for given the intelligence flavor one understands better the concepts of "global" profiles; synonym tables; message "zones", of the problems of text search when applied to fuzzy concepts such as "foreign relations".

Problem Summary

8. Several more serious concerns were noted during our week long stay; the seriousness of any one of them cannot now be fully assessed. Some of these are, however, sufficiently serious that NFAC management must be aware and must ask questions of SAFE Project management. We are reasonably assured that the proper persons are trying to work out solutions.

9. The TRW A-Spec, their statement of understanding of the SAFE requirements has not yet been approved by the Government. There are two items of major concern. The first concern involves the Central Index File; it appears that TRW is having a great deal of difficulty in providing

the "index term phrase" concept of SAFE. The extent to which they can jury rig the system to provide what we have now is questionable. Simply stated this means that it is possible that there may be no links among or between index terms in an index record. This essentially means that the Central Index File could be inoperable in Block 1. The second concern is that TRW does not want to implement a "locate" capability in Block 1; that is, there will be no way of searching the so-called Ancillary files which include compose, profiles, synonym lists, etc. One will have to browse through a file until you find, what you need.

10. Another problem that is looming on the horizon is system performance capabilities for text search. During the week comments ranging from "it won't work" to "give them until August to provide performance data" were heard. This is not the first time we have heard hints that text search performance may be in trouble. Text search is an extremely important tool in SAFE -- an easy way to scan mail files, a good way to find for specific information in large collections of documents -- and because it is we must know as soon as possible what the problems are and if there are any, how serious they are. Analysts in NFAC are familiar with the text search capabilities provided by COLTS and if the SAFE text search performance is less than COLTS then there will have to be some serious reappraisal of SAFE.

11. The User Language Specification is not yet on target; but the Government hopes to remedy the problem. Clearly, the contractor has moved into the language arena with precious little understanding of how SAFE is likely to be used by analysts. Only through long, arduous, persistent interaction with the user language team can we hope to have a viable user language built for SAFE.

12. We do not see evidence that TRW is providing the capability to browse a vocabulary list. This is a capability now enjoyed by users of the RECON System.

13. We sense there may be problems in the processing of mail profiles. Both SAS and TRW have more homework to do. TRW must look at the profiles we are now building to run PMO and we must be reminded not to make our profiles unjustifiably complex; or, simply stated, the SAFE processor will break down.

14. Perhaps, because of all of the above there are subtle rumblings of a slip in IOC, for Block 1 or the need

of more money, or both. The big driver here apparently is the Central Index File and its attendant capabilities.

Specific Comments

15. The remainder of this report will discuss areas of special interest to the SAS. In each instance SAS participated in discussions to a sufficient depth to make these more detailed comments possible.

SAFE User Manual

16. A brief discussion was given by the TRW person who will be responsible for writing the SAFE user manuals. She is a very junior member of the user language team and is in no position to create a meaningful user manual. We made the suggestion, and it was approved, that the manual be a joint TRW/Government activity. I am hoping to name a person or persons to work on this project. The SAS-prepared PUC Reports on SAFE capabilities have been received by TRW and they say that they plan to use them as they prepare the user manuals. This remains an action item between the Government and TRW.

SAFE Language Development

17. We participated in a long side meeting on the user language. We came in with seven straightforward user scenarios that depict a series of activities that analysts are likely to use in SAFE. We wanted to have a TRW demonstrate their language concept by applying it to the scenarios. We were unable to get through the first one in one and one-half hours. TRW still has a basic lack of understanding of the analyst's world; and yet they defend their product in terms of simplicity to the analyst. The TRW language concept has permeated system design to an extent; it is late for a very basic change to what they have done. Accordingly, we will attempt to rework what they have done without unduly changing their fundamental concepts. Where changes have to be made they will be made.

18. During the language discussion it became clear that a SAFE user would be unable to Browse his "hits" as they were found (a capability of COLTS). Even in a search that would take some time to perform, the user would have to wait until the search was completed before he could view his "hits"; and then, he would have to write a command to see them. This was discussed at some length; the bottom line,

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as far as TRW is concerned was probably stated by Lari McLoughlin when he said; "you can't expect SAFE to optimize around <u>search;</u> it has too many other things it must allow a user to do". Search is a "background" mode function in SAFE; there is no user interaction with the search once started.

19. Although we were told differently, there will apparently be no capability to split the Delta Data screen vertically; only the horizontal split will be implemented for Block 1. This affects OCR/ISG who may want to use the vertical split as an OLDE-III input technique. When confronted with this fact, one of the TRW language people indicated that when he visited the indexing operation, an indexer told him that she preferred the horizontal split. So, with no further checking only the horizontal split was planned for. This is a clear example of how TRW has taken one individual's comment and proceeded to design around that comment.
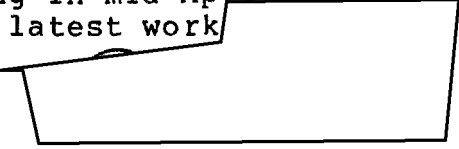
Compose Function

20. We participated in a side meeting to discuss SAS's improved statement of the SAFE "compose function" requirement. The statement has been prepared in order to ensure that SAFE will eventually replace the present word processing operations in NFAC. As planned, the SAFE capability would provide analysts, typists, editors with everything required to compose final text copy for automatic composition. We assured TRW that we were not trying to change the Block 1 requirements drastically; we did, however, want Block 1 capability to be the right step in the direction of the complete capability. TRW will review their Block 1 concepts and the Burroughs text editor package. We will complete the [   ] paper that states the Block 1 requirement along with a statement of the overall requirement.

Mail Profiles

21. We had an informal meeting with the people developing the mail profile and dissemination capability. Their design is predicated on a 50 term profile, and no more than 50 percent root searches (that is a term containing both leading and trailing variable length don't cares). Our recent experiences with PMO and other work in the test lab shows that both of these might be on the low side. We talked to a possible partial-solution to the latter, whereby

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we would specify to the processor the upper limits of the
variable length don't care; that is not to exceed three or
five, or some fixed number. A meeting in mid-April is
scheduled, where TRW will review our latest work

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